OrdnanceReports

News updates from around the world

June 6, 2003

This publication is produced by the U.S. Army Ordnance Corps Communications Coordinator. The purpose of this publication is to provide Command Information materiel concerning world events and the U.S. military's role in those events. Ordnance specific events will be covered if appropriate. Direct your correspondence to Ed Starnes at 410-278-2415 (DSN 298-2415), or email edward.starnes @ocs.apg.army.mil.

SUPREME HEADQUARTERS
ALLIED EXPEDITIONARY FORCE

Soldiers, Sailors and Airmen of the Allied Expeditionary Force!

You are about to embark upon the Great Crusade, toward which we have striven these many months. The eyes of the world are upon you. The hope and prayers of liberty-loving people everywhere march with you. In company with our brave Allies and brothers-in-arms on other Fronts, you will bring about the destruction of the German war machine, the elimination of Nazi tyranny over the oppressed peoples of Europe, and security for ourselves in a free world.

Your task will not be an easy one. Your enemy is well trained, well equipped and battle-hardened. He will fight savagely.

But this is the year 1944! Much has happened since the Nazi triumphs of 1940-41. The United Nations have inflicted upon the Germans great defeats, in open battle, man-to-man. Our air offensive has seriously reduced their strength in the air and their capacity to wage war on the ground. Our Home Fronts have given us an overwhelming superiority in weapons and munitions of war, and placed at our disposal great reserves of trained fighting men. The tide has turned! The free men of the world are marching together to Victory!

I have full confidence in your courage, devotion to duty and skill in battle. We will accept nothing less than full Victory!

Good Luck! And let us all beseech the blessing of Almighty God upon this great and noble undertaking.

/s/Dwight D Eisenhower

Hitler Directive Number 51

In this directive, the German leader formally responded to concerns caused by the ominous buildup of forces in the British Isles. Hitler displayed here his tendency to issue detailed orders far below the strategic level, and he divided responsibility for military operations among the land, air, and naval commanders, who would answer not to a theatre commander but ultimately to himself. Such interference and rigid control contributed to the military debacle of the Normandy campaign in June-August 1944.

Führer Headquarters

3 November 1943

Top Secret

The Führer

Directive No. 51

For the last two and one-half years the bitter and costly struggle against Bolshevism has made the utmost demands upon the bulk of our military resources and energies. This commitment was in keeping with the seriousness of the danger, and the over-all situation. The situation has since changed. The threat from the East remains, but an even greater danger looms in the West: the Anglo-American landing! In the East, the vastness of the space will, as a last resort, permit a loss of territory even on a major scale, without suffering a mortal blow to Germany's chance for survival.

Not so in the West! If the enemy here succeeds in penetrating our defenses on a wide front, consequences of staggering proportions will follow within a short time. All signs point to an offensive against the Western Front of Europe no later than spring, and perhaps earlier.

For that reason, I can no longer justify the further weakening of the West in favour of other theaters of war. I have therefore decided to strengthen the defenses in the West, particularly at places from which we shall launch our long-range war against England. [Here Hitler refers to the Pas-de-Calais area north of Normandy, where launch facilities were being installed for the secret V-1 missile.] For those are the very points at which the enemy must and will attack; there—unless all indications are misleading—will be fought the decisive invasion battle.

Holding attacks and diversions on other fronts are to be expected. Not even the possibility of a large-scale offensive against Denmark may be excluded. It would pose greater nautical problems and could be less effectively supported from the air, but would nevertheless produce the greatest political and strategic impact if it were to succeed.

During the opening phase of the battle, the entire striking power of the enemy will of necessity be directed against our forces manning the coast. Only an all-out effort in the construction of fortifications, an unsurpassed effort that will enlist all available manpower and physical resources of Germany and the occupied areas, will be able to strengthen our defenses along the coasts within the short time that still appears to be left to us.

Stationary weapons (heavy AT [antitank] guns, immobile tanks to be dug-in, coast artillery, shore-defense guns, mines, etc.) arriving in Denmark and the occupied West within the near future will be heavily concentrated in points of main defensive effort at the most vulnerable coastal sectors. At the same time, we must take the calculated risk that for the present we may be unable to improve our defenses in less threatened sectors.

Should the enemy nevertheless force a landing by concentrating his armed might, he must be hit by the full fury of our counterattack. For this mission ample and speedy reinforcements of men and materiel, as well as intensive training must transform available larger units into first-rate, fully mobile general reserves suitable for offensive operations. The counterattack of these units will prevent the enlargement of the beachhead, and throw the enemy back into the sea.

In addition, well-planned emergency measures, prepared down to the last detail, must enable us instantly to throw against the invader every fit man and machine from coastal sectors not under attack and from the home front.

The anticipated strong attacks by air and sea must be relentlessly countered by Air Force and Navy with all their available resources. I therefore order the following:

A) Army:

1.) The Chief of the Army General Staff and the Inspector General

of Panzer Troops will submit to me as soon as possible a schedule covering arms, tanks, assault guns, motor vehicles, and ammunition to be allocated to the Western Front and Denmark within the next three months. That schedule will conform to the new situation. The following considerations will be basic:

a) Sufficient mobility for all panzer and panzer grenadier divisions in the West, and equipment of each of those units by December 1943 with 93 [Panzerkampfwagen] Mark IV tanks or assault guns, as well as large numbers of antitank weapons.

Accelerated reorganization of the 20 Luftwaffe field divisions into an effective mobile reserve force by the end of 1943. This reorganization is to include the issue of assault guns.

Accelerated issue of all authorized weapons to the SS Panzer Grenadier Division Hitler Jugend [which was upgraded to the 12th SS Panzer Division "Hitler Youth"], the 21st Panzer Division, and the infantry and reserve divisions stationed in Jutland.

b) Additional shipments of Mark IV tanks, assault guns, and heavy AT guns to the reserve panzer divisions stationed in the West and in Denmark, as well as to the Assault Gun Training Battalion in Denmark.

c) In November and December, monthly allotments of 100 heavy AT guns models 40 and 43 (half of these to be mobile) in addition to those required for newly activated units in the West and in Denmark.

d) Allotment of large numbers of weapons (including about 1,000 machine guns) for augmenting the armament of those static divisions that are committed for coastal defense in the West and in Denmark, and for standardizing the equipment of elements that are to be withdrawn from sectors not under attack.

e) Ample supply of close-combat AT weapons to units in vulnerable sectors.

f) Improvement of artillery and AT defenses in units stationed in Denmark, as well as those committed for coastal protection in the occupied West. Strengthening of GHQ [General Headquarters] artillery.

2.) The units and elements stationed in the West or in Denmark, as well as panzer, assault gun, and AT units to be activated in the West, must not be transferred to other fronts without my permission. The Chief of the Army General Staff, or the Inspector General of Panzer Troops will submit to me a report through the Armed Forces Operations Staff [headed up by General Alfred Jodl] as soon as the issue of equipment to the panzer and assault gun battalions, as well as to the AT battalions and companies, has been completed.

3.) Beyond similar measures taken in the past, the Commander in Chief West [at the time of this directive, Field Marshal Gerd von Rundstedt] will establish timetables for, and conduct maneuvers and command post exercises on, the procedure for bringing up units from sectors not under attack. These units will be made capable of performing offensive missions, however limited. In that connection I demand that sectors not threatened by the enemy be ruthlessly stripped of all forces except small guard detachments. For sectors from which reserves are withdrawn, security and guard detachments must be set aside from security and alarm units. Labour forces drawn largely from the native population must likewise be organized in those sectors, in order to keep open whatever roads might be destroyed by the enemy air force.

4.) The Commander of German Troops in Denmark will take measures in the area under his control in compliance with paragraph 3 above.

5.) Pursuant to separate orders, the Chief of Army Equipment and Commander of the Replacement Army will form Kampfgruppen [battle groups] in regimental strength, security battalions, and engineer construction battalions from training cadres, trainees, schools, and instruction and convalescent units in the Zone of the Interior. These troops must be ready for shipment on 48 hours' notice.

Furthermore, other available personnel are to be organized into battalions of replacements and equipped with the available weapons, so that the anticipated heavy losses can quickly be replaced.

B) Luftwaffe:

The offensive and defensive effectiveness of Luftwaffe units in the West and in Denmark will be increased to meet the changed situation. To that end, preparations will be made for the release of units suited for commitment in the anti-invasion effort, that is, all flying units and mobile Flak artillery that can be spared from the air defenses of the home front, and from schools and training units in the Zone of the Interior. All those units are to be earmarked for the West and possibly Denmark.

The Luftwaffe ground organization in southern Norway, Denmark, northwestern Germany, and the West will be expanded and supplied in a way that will—by the most far-reaching decentralization of own forces—deny targets to the enemy bombers, and split the enemy's offensive effort in case of large-scale operations. Particularly important in that connection will be our fighter forces. Possibilities for their commitment must be increased by the establishment of numerous advance landing fields. Special emphasis is to be placed on good camouflage. I expect also that the Luftwaffe will unstintingly furnish all available forces, by stripping them from less threatened areas.

C) Navy:

The Navy will prepare the strongest possible forces suitable for attacking the enemy landing fleets. Coastal defense installations

D-Day: Fact File

- **156,000 men took part in the initial D-Day landings.Of these 10,000 were casualties on the first day.**
- **On D-Day and in the seven months following, three and a half million British, Canadian and US troops embarked from Southampton. Nearly 31,000American troops and more than 3,000 vehicles embarked for the D-Day invasion on 208 vessels at Weymouth and Portland.**
- **At least 30,000Allied airmen were in action on D-Day.**
- **Between 15,000 and 20,000 tons of bombs were dropped in the 24 hours between the night of June 5 and June 6.**
- **H-Hour on the British and Canadian beaches was 0730 hours - an hour later than on the American beaches.**
- **In one spot alone the Germans had laid at least 14,000 mines.**
- **At Sword Beach the 3rd British Division began landing at 0725 hours - Lord Lovat led his commandos on to the beach as a piper played a Highland reel on the deck of his landing craft.**
- **Response from German High Command was slow. Hitler was asleep, having taken sleeping pills the night before. When he did wake he refused to alter his appointments.**
- **Von Rundstedt tried for most of the day to deploy two Panzer divisions, but it was not until 1540 hours that Hitler released them.**

in the process of construction will be completed with the utmost speed. The emplacing of additional coastal batteries and the possibility of laying further flanking mine fields should be investigated.

All school, training, and other shore-based personnel fit for ground combat must be prepared for commitment so that, without undue delay, they can at least be employed as security forces within the zone of the enemy landing operations.

While preparing the reinforcement of the defenses in the West, the Navy must keep in mind that it might be called upon to repulse simultaneous enemy landings in Norway and Denmark. In that connection, I attach particular importance to the assembly of numerous U-boats in the northern area. A temporary weakening of U-boat forces in the Atlantic must be risked.

D) SS:

The Reichsfuehrer-SS will determine what Waffen-SS and police forces he can release for combat, security, and guard duty. He is to prepare to organize effective combat and security forces from training, replacement, and convalescent units, as well as schools and other home-front establishments.

E) The commanders in chief of the services, the Reichsfuehrer-SS, the Chief of the Army General Staff, the Commander in Chief West, the Chief of Army Equipment and Commander of the Replacement Army, the Inspector General of Panzer Troops, as well as the Commander of German Troops in Denmark will report to me by 15 November all measures taken or planned.

I expect that all agencies will make a supreme effort toward utilizing every moment of the remaining time in preparing for the decisive battle in the West.

All authorities will guard against wasting time and energy in useless jurisdictional squabbles, and will direct all their efforts toward strengthening our defensive and offensive power.

signed: Adolf Hitler

Joint Operations Plan - U.S. Forces - Operation OVERLORD

Headquarters First U.S. Army Group

The Joint Operations Plan - U.S. Forces for Operation OVERLORD (Revised 8 May 1944) with changes No. 1, to Annexes Nos. 2 to 7, and Annex No. 8 added, supersedes conflicting portions of the previous plan (Final Draft, 8 April 1944.) This revision and these changes have the joint approval of the Commanding General, Ninth Air Force and the Naval Commander, Western Task Force.

[These words introduce the plan devised by the so-called First United States Army Group (FUSAG) to extend the U.S. lodgement area beyond the Normandy beachhead and into Brittany. FUSAG existed as a headquarters only; once the breakout from Normandy actually took place, the U.S. ground forces were placed under the umbrella of Omar Bradley's 12th Army Group.]

SECTION I

SITUATION

. . . 2. General Information.

a. The object of Operation OVERLORD (Outline Plan, C.O.S. (43) 416 (O)) is to secure a lodgement area on the Continent from which further offensive operations can be developed. The operation will be executed in two phases:

Phase I - The assault and capture of an initial lodgement area including the development of airfield sites in the CAEN area and the capture of CHERBOURG.

Phase II - Enlargement of the lodgement area to include the BRITTANY PENINSULA, all ports south to the LOIRE, and the area between the LOIRE and the SEINE.

Phase I and some parts of Phase II will be executed by U.S., British and Canadian forces assigned or attached to the 21 Army Group.

b. At a time to be designated by SHAEF, the First U.S. Army Group, as such, will take over certain areas, missions, and the U.S. Forces then under 21 Army Group. SHAEF and 21 Army Group directives have also charged FUSAG with coordinating, under the direction of 21 Army Group, the planning of U.S. Forces (less First U.S. Army and its accompanying forces) for all action following the arrival of First U.S. Army on the Continent.

3. Object.

This Joint Plan will prescribe the responsibilities of the major U.S. Forces following First U.S. Army, and provide a common basis for further detailed planning, under FUSAG coordination, by the respective Forces and their subordinate echelons. Until Third Army is operating there, this Plan is concerned only with the movement to the Continent of U.S. Forces which follow the last organic corps of the First Army. It is estimated that this movement will start on D + 15. . . .

5. Allied Forces.

At the end of Phase I Allied Forces are assumed to have reached the line shown on Map A of Annex 1 as D + 20. Ninth Air Force is estimated to have eleven fighter groups operating from fields on the Continent. First U.S. Army has three corps abreast, generally along the line AVRANCHES-DOMFRONT. The port of CHERBOURG is open and in operation under U.S. control. British, Canadian and U.S. heavy supplies are being processed through this port but the bulk of all supplies are still coming over the beaches. No other major port has been opened.

SECTION II

MISSIONS AND ORGANIZATION

6. Missions.

a. Joint Missions. Third Army, Ninth Air Force, Navy and Fwd Ech Com Z, being mounted by ETOUSA and coordinated by FUSAG, will jointly prepare to move the remaining elements of their respective forces to the Continent, in order to capture and develop the BRITTANY PENINSULA for the maintenance of U.S. Forces, and thereafter to conduct further operations on the Continent within an area to be allotted by SHAEF to FUSAG.

b. FUSAG Mission. Under the supervision of 21 Army Group FUSAG will coordinate the movement of Third Army, Ninth Air Force and Com Z troops and U.S. Naval personnel as a continuation of the First Army movement and will plan for operations in two stages as follows:

STAGE I - Commence occupation of the BRITTANY PENINSULA and open any essential minor ports thereon. Develop QUIBERON BAY Area as a major port of entry as soon as secured. Complete the organization of the Com Z throughout the COTENTIN

PENINSULA and commence its organization in the BRITTANY PENINSULA.

STAGE II - Concentrate the Third Army north of the LOIRE facing east. Complete the reduction of the BRITTANY PENINSULA and its organization as a part of the COM Z.

c. Ninth Air Force Mission. The Ninth Air Force will complete the movement of its remaining elements to the Continent, coordinated with movement of ground forces, and will continue the development of airfields and the execution of air operations in the U.S. sector as directed by AEAF.

d. Naval Mission.

(1) The Western Naval Task Force will transport ground and Air Force elements to the Continent and furnish Naval fire support for attacks by land and air forces in coastal areas as required. It will also assist in the rehabilitation and restoration of captured ports and port facilities. . . .

(3) The prevention of enemy reinforcement of the BRITTANY PENINSULA across its Atlantic Coastal perimeter is a responsibility of the Admiralty.

e. ETOUSA Mission. Mounting of all U.S. Forces moving from the UK (including NI [Northern Ireland] for operation OVERLORD is the responsibility of ETOUSA. . . . The Mounting Plan is inherently flexible to the extent that there is always in the concentration area a 10 days' reserve of units preparing to embark. Any of these units can be embarked within 3 days after they have been requested. In addition one division and certain critical troops from well down on the priority list will be held in a concentration area ready for immediate shipment after D + 20. . . .

SECTION III

OPERATIONS

9. Ground Forces.

a. First Army, including: four corps headquarters (three organic and one attached from Third Army upon arrival on the Continent); nine infantry divisions (including three divisions from Third Army, two of which will be attached upon arrival on the Continent); two armored divisions; two airborne divisions (to return to UK about D + 15 for refitting).

STAGE I - After capturing CHERBOURG, the First Army will drive to the south and southcast to cut off the BRITTANY PENINSULA, secure the QUIBERON BAY area, to include BELLE ISLE and such other small islands as are necessary for the control of the QUIBERON BAY area, and establish the southern limit of the lodgement area along the lower LOIRE. The First Army will then undertake to clean up resistance on the BRITTANY PENINSULA. VIII Corps will revert to command of Third Army when Third Army Headquarters becomes operational on the Continent. Necessary supporting troops for VIII Corps will be attached from First Army until such time as Third Army troops become available. If the First Army has not captured the QUIBERON BAY area and BELLE ISLE by the time Headquarters Third Army becomes operational on the Continent, First Army will be prepared to attach to the Third Army two ranger battalions or one amphibiously trained RCT [Regimental Combat Team] together with such airborne troops as are required for this operation.

STAGE II - First Army will advance to the line of the UPPER SEINE prepared for further action to the northeast, and assume command of the British Corps southwest of PARIS.

b. Third Army, including: three corps headquarters (in addition to one attached to First Army); five infantry divisions (in addition to three attached to First Army); four armored divisions; one French armored division.

STAGE I - (1) Third Army, less VIII Corps, will land on the Continent, as soon as possible after First Army, in one or more of the following ways:

(a) Through CHERBOURG, or over the beaches between VARREVILLE (4299) and COLLEVILLE-SUR-MER (6888) and the benches and minor ports north and east of ST. MALO (incl.). This may be the quickest method of bringing in Third Army, or elements thereof.

(b) Through the BRITTANY ports or beach installations as they become available, particularly those in the QUIBERON BAY area.

(c) If no ports or beach installations can be secured in the BRITTANY PENINSULA by land operations or if undue delay is incurred in their capture, it may become necessary or desirable to adopt the alternative plan referred to in paragraph 12 below.

(2) When Third Army Headquarters becomes operational on the Continent, they will resume command of the VIII Corps and operating on the right of the First Army, will complete such parts of the following missions as have not been accomplished by First Army:

(a) Capture the QUIBERON BAY Area.

(b) Capture BELLE ISLE, and such other small islands as are necessary for the control of the QUIBERON BAY Area. For this operation Third Army will utilize certain units provided by the First Army, namely: two ranger battalions or one RCT (amphibious) and necessary airborne troops.

(c) Complete the capture of the BRITTANY PENINSULA and open the remainder of the BRITTANY Ports.

STAGE II - After clearing the BRITTANY PENINSULA, Third

Army will concentrate on the right of the First Army, prepared to operate to the east, either in close conjunction with the First Army, or by swinging south of the LOIRE if a wider envelopment is feasible. It will place one armored division in FUSAG reserve near LE MANS.

c. Com Z Troops.

STAGE I - Advance Section Com Z will complete the organization of the COTENTIN PENINSULA including the port of CHERBOURG as part of the Com Z. Fwd Ech Com Z will then begin to open and develop ports on the BRITTANY PENINSULA giving the QUIBERON BAY area first priority.

STAGE II - Fwd Ech Com Z will complete the opening and development of BRITTANY Ports including QUIBERON BAY, BREST and such other ports as are necessary. It will take over the BRITTANY PENINSULA from Third Army for organization as part of the Com Z, which will extend eastward to include LE MANS. . . .

10. Naval Forces.

a. The craft and ships used in the build-up of the First Army will continue in the cross-channel service and be used to transport the remaining units of the First Army Group and associated elements from the UK to the beaches and ports in Northwest France.

b. WNTF [Western Naval Task Force] will be prepared to furnish the necessary naval support and lift for one RCT (amphibious) or at least two ranger battalions for the capture of BELLE ISLE.

11. Ninth Air Force.

a. The Ninth Air Force will be associated with the First Army Group. The Ninth Air Force will be employed as a Tactical Air Force in support of the ground forces as directed by Joint Ninth Air Force and 2nd TAF (RAF) Commanders in coordination with AEAF. Request from the ground forces for air support will normally be made thru an Air Support Commander or his representative.

(1) Tactical Air Support will be accomplished by:

(a) Gaining the necessary degree of air superiority.

(b) Preventing the movement of hostile troops and supplies into the theater of operations.

(c) Participation in a combined effort of the air and ground forces, in the battle area, to gain objectives on the immediate front of the ground forces.

b. In the UK the Air Commander is the Commanding General, Ninth Air Force. On the Continent, the Air Commander will be the Senior Air Officer of the Ninth Air Force present until such time as the Commanding General, Ninth Air Force arrives. . . .

e. At each corps and division headquarters there will be an air support party, consisting of one air support officer, with radio and wire communication facilities and enlisted personnel for their operation. The radio facilities will include HF for reporting back to Tactical Air Command, and VHF for talking to airplanes in the air. The Air Support Officer acts in an advisory and liaison capacity with the operating staff of the division or corps. It is his duty to pass back to the Joint Army / Tactical Air Command Headquarters all approved requests for air support, tactical and photographic reconnaissance, location of bomb line, local weather data, and all pertinent information to which he has access. Support requests from division may be monitored by corps. . . .

h. The capture of areas that contain airfield sites is a vital objective. This responsibility must be impressed upon all commanders down to and including those of RCTs. The speed with which airfield sites can be made operational, directly affects the speed with which air support can be made available to the ground forces. . . .

12. Alternative Plan.

It may develop that the First U.S. Army, after having cut off the BRITANNY PENINSULA, will, with a part of the Third Army, be contained and be unable to secure either BREST or the QUIBERON BAY area without undue delay. If maintenance of additional troops through ports and beaches already secured is impossible, one or more additional major ports will have to be taken to permit further development of the lodgement area. A plan to expedite this phase of the operations is being considered under the code name of SWORDHILT. Further instructions on this subject will be issued. . . .

15. Resistance Groups.

Resistance Groups will put into effect throughout FRANCE and BELGIUM certain pre-arranged plans, including particularly attacks on enemy rail, road, and tele-communications. In addition, Resistance Groups will be called upon to perform missions in strategic rear areas designed to interfere with the enemy's moves to oppose the advance of the Allied armies. Small, specially trained and equipped military units will be prepared to operate with resistance elements behind the enemy's lines so as to carry out specific harrassing and destructive missions. For SOE/SO Plan, see Annex [25 of Operations Plan "Neptune"].

Ernie Pyle On Ordnance

War Correspondent of the Scripps Howard
Newspaper Alliance and United Features Syndicate

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Ernie Pyle is the first war correspondent to tell Americans back home how it really feals to be an Ordnanceman in World War II. It is estimated that one out of every nine persons in the United States reads his dispatches. These are particularly good because Ernie gathered his facts the hard way, by actually living and working with the Odnanceman he writes about. It is this kind of reporting that has made some newspapermen call him the greatest reporter of this war.

In Normandy
July 25, 1944

One of the things the layman doesn't hear much about is the Ordnance Department. In fact itis one of the branches that even the average soldier is little aware of except in a vague way.

And yet the war couldn't keep going without it. For Ordnance repairs all the vehicles of an army and furnishes all the ammunition for its guns.

Today there are more vehicles in the American sector of our beachhead than in the average-sized American city. And our big guns on an average heavy day are shooting up more than $10,000,000 worth of ammunition. So you see Ordnance has a man-sized job.

Ordnance personnel is usually about six or seven per cent of the total men of an army. That means we have many thousands of Ordnancemen in Normandy. The insigne is a flame coming out of a retort -- nicknamed in the Army "The Flaming Onion."

Ordnance operates the ammunition dumps we have scattered about the beachhead. But much bigger than its ammunition mission is Ordnance's job of repair. Ordnance has 275,000 items in its catalog of parts, and the mere catalog itself covers a 20-foot shelf.

In a central headquarters here on the beachhead a modern filing system housed in big tents keeps records on the number and condition of 500 major items in actual use on the beachhead, from tanks to pistols.

We have scores and scores of separate Ordnance companies at work on the beachhead--each of them a complete firm within itself, able to repair anything the Army uses.

Ordnance can lift a 30-ton tank as easily as it can a bicycle. It can repair a blown-up jeep or the intricate breech of a mammoth gun.

* * *

Some of its highly specialized repair companies are made up largely of men who were crafstmen in the same line in civil life. In these companies you will find the average age is much above the Army average. You will find craftsmen in their late 40's, you'll find men with their own established businesses who were making $30,000 to $40,000 a year back home and who are now wearing sergeant's stripes. You'll find great soberness and sincerity, plus the normal satisfaction that comes from making things whole again instead of destroying them.

You will find an IQ far above the average for the Army. It has to be that way or the work would not get done.

You'll find mechanical work being done under a tree that would be housed in a $50,000 shop back in America. You'll find men working 16 hours a day, then sleeping on the ground, who because of their age don't even have to be here at all.

Ordnance is one of the undramatic branches of the Army. They are the mechanics and the craftsmen, the fixers and the suppliers. But their job is vital. Ordinarily they are not in a great deal of danger. There are times on newly won and confested beachheads when their casulaty rate is high, but once the war settles down and there is room for movement and dispersal it is not necessary or desirable for them to do their basic work within gun range.

Our Ordnance branch inNormandy has had casualties. It has two small branches which will continue to have casualties--its bomb disposal squads and its retriever companies that goup to pull out crippled tanks under fire.

But outside of thsoe two sections, if your son or husband is in Ordnance in France you can feel fairly easy about his returning to you. I don't say that to belittle Ordnance in any way, but to ease your worries if you have someone in theis branch of the service overseas.

* * * *

Ordnance is set up in a vast structure of organization the same as any other Army command. The farther back you go the bigger become theoutfits and the more elaborately equipped and more capable of doing heavy, long-term work.

Every Infantry or Armored division has an Ordnance company with it all the time. This company does quick repair jobs. Wha tit hasn't time or facilities for doing it hands on back to the next echelon in the rear.

The division Ordnance companies hit the beach on D-Day. The next echelon back began coming on D-Day plus four. The great heavy outfits arrived somewhat later.

Today the wreckage of seven weeks of war is all in hand, and in one great depot after another it is being worked out--repaired or rebuilt or sent back for salvage until everything possible is made available again to our men who do the fighting. In later columns I'll take you along to some of these repair companies that do the vital work.

Somewhere in Normandy
July 26, 1944

Let's go to what the Ordnance branch calls one of its "mobile maintenance companies."

This type company repairs jeeps, light trucks, small arms and light artillery. It does not take tanks, heavy trucks or big guns.

The company is bivouacked around the hedgerows of a large grassy L-shaped pasture. There are not trees in the pasture. There is nothing in the center except some grazing horses. No man or vehicle walks or drives across the pasture. Always they stick to the tree-high headerows.

It is hard to conceive that there in the thin, invisible line around the edges of this empty pasture there is a great machine shop with nearly 200 men working with wrenches and welding torches, that six teams of auto mechanics are busy, that the buzz of urgent labor goes on through all the daylight hours.

Actually there is little need for such perfect camouflage, for this company is perhaps ten miles behind the lines and German planes never appear in the daytime. But it's a good policy to keep in practice on camouflage.

* * * *

This is a proud company. It was the first one to land in Franche--first, that is, behind the companies actually attached to divisions. It landed on D-Day plus two and lost three men killed and seven wounded when a shell hit their ship as they were unloading.

For five days it was the only Ordnance company of its type ashore. Its small complement whose job in theory is to back up one division in medium repair work, carried all repair work for four divisions until help arrived.

The company had a proud record in the last war, being in ninemajor engagements. And it has a sentimental little coincidence in its history, too. In 1917 and 1943 it left America for France on the same date, Dec. 12.

* * * *

In one corner of the pasture is the command post tent where two sergeants and two officers work at folding tables and keep the records os necessary in Ordnance.

A first lieutenant is in command of the company, assisted by five other lieutenants. Their standy is W/O Ernest Pike of Savoy, Texas, who has been in the Army 15 years, 13 of them with this very company. What he doesn't know about practical Ordnance you could put in a dead German's eye.

In another corner of the pasture is a mess truck with its field kitchens under some trees. Here the men of the company line up for meals with mess kits, officers as well as men, and eat sitting on the greass.

The officers lounge on the greass in a little group apart and when they finish eathing they light cigarets and play awhile with some cute little French puppies they found in German strong points, or treaded soap and cigarets for. The officers know the men intimately and if they are in a hurry and have left their messkits behind they just borrow one from some soldier who has finished eating.

* * * *

A company of this kind is highly mobile. It can pack up and be under way in probably less thn an hour.

Yet Ordnance figures as a basic policy that its companies must not move oftener than every six days if they are to work successfully.

They figure one day for moving, one for settling down and four days of full-time work, then move forward again.

If at any time the fighting army ahead of them gets rolling faster than this rate, the Ordnance companies begin leapfrogging each other, one working while another of the same type moves around it and sets up.

Their equipment is moved in trucks and trialers. Some trucks are machine shops, others are supply stores. Some plain trucks are for hauling miscellaneous stuff.

Once set up, the men sleep on the ground in pup tents along the hedge with foxholes dug deep and handy. But usually their greatest enemy is the hordes of mosquitoes that infest the hedgerows at night.

The more skilled men work at their benches and instruments inside the shop trucks. The bulk of the work outsid eis done under dark green canvas canopies stretched outward from the hedgerows and held taut on upright poles, their walls formed of camouflage nets.

Nothing but a vague blur is visible from a couple of hundred yards away. You have to make a long tour clear around the big pasture, nosing in nuder the hedge and camouflage nets to realize anything is going on at all.

In the far distance you can hear a faint rumble of big guns, and overhead all day our won planes roar comfortingly.

But outside those fringes of war it is as peaceful inthis Normandy field as it would be in a pasture in Ohio. Why even the three liberated horses graze contentedly on the ankle-high grass, quite indifferent to the fact that his peaceful field is a part of the great war machine tha will destroy their recent masters.

Somewhere in Normandy
July 27, 1944

At the edge of a pasture sititng cross-legged on the grass or on low boxes as though they were at a picnic, are 13 men in greasy soldiers' coveralls.

Near them onone side is a shop turck with a canvas canopy stretched out from it, making a sort of patio alongside the truck. And under this canopy and all over the ground are rifles--rusty and muddy and broken rifles.

This is the small arms section of our medium Ordnance company. To this company comes daily in trucks the picked up, rusting rifles of men killed or wounded, and rifles broken in ordinary service. There are dozens of such companies.

This company turns back around a hundred rifles a day to its division all shiny and oily and ready to shoot again.

They work on the simple salvage system of taking good parts off one gun and placing them on another. To do this they work like a small assembly plant.

The first few hours of the morning are given to taking broken rifles agpart. They don't try to keep the parts of each gun together. All parts are alike and transferable, hency they throw each type into a big steel pan full of similar parts. At the end of the job they have a dozen or so pans, each filled with the same kind of part.

Then the whoel gang shifts over and scribs the parts. They scrub in gasoline, using sandpaper for guns in bad condition after lying out in the rain and mud.

When everything is clean they take the good parts and start putting them back together again.

When all the pans are empty they have a stack of rifles--good rifles, all ready to be taken back tot he front.

Of the parts left over some are thrown away, quite beyond reapir. But others are repairable and go into the section's shop truck for working on with lathes and welding torches. Thus the division gets 100 reclaimed rifles a day, in addition to the brand-new ones issued to it.

And believe me, during the first few days ofour invasion men at the front needed those rifles with desperation. Repairmen tell you how our Paratroopers and Infantrymen would straggle back, dirty and hazy-eyed with fatigue, and plead like children for a new rifle immediately so they could get back to the front and "get at them sonsabitches."

One Paratrooper brought in a German horse he had captured and offered to trade it for a new rifle, he needed it so badly. During those days the men in our little repair shop worked all hours trying to fill the need.

I sat around on the grass and talked to these rifle repairmen most of one forenoon. They weren't workig so frenziedly then for the urgency was not so dire, but they kept steadily at it as we talked.

The head of the section is Sgt. Edward Welch of Watts, Okla., who used to work in the oil fields. Just since the invasion he's invented a gadget that cleans rust out of a rifle barrel in a few seconds whereas it used to take a man about 20 minutes.

Sgt. Watts did it merely by rigging up a swivel shaft on the end of an electric drill and attaching a cylindrical wire brush to the end. So now you just stick the brush in the gun barrel and press tghe button on the drill. It whirls and in a few seconds all rust is ground out. The idea has been turned over to other Ordnance companies.

The soldiers do a lot of kidding as they sit around taking rusted guns apart. Like soldiers everywhere they take razz each other constantly about their home states. A couple were from Arkansas, and of course they took a lot of hillbilly razzing aobut not wearing shoes till they got in the Army and so on.

One of them was Cpl. Herschel Grimsley of Springdale, Ark. He jokingly asked if I'd put his name in the paper. So I took a chance and joked back, "Sure," I said, "expect I didn't know anybody in Arkansas could read?"

Everybody laughed loudly at this scintillating wit, most of all Cpl. Grimsley, who can stand anything. Later Grimsely was telling me how Paratroopers used to come in and just beg for another rifle. And he expressed the sincere feelingof the men throughout Ordnance, the balance weighing their own fairly safe job, whe he said:

"Them old boys at the front have sure got my sympathy. Least we can do is work our fingers off to give them the stuff."

* * * *

The original stack of muddy, rusted rifles is a touching pile. As gun after gun comes off the stack you look to see what is the matter with it.

Rifle butt just split by fragments; barrel dented by bullet; trigger knocked off; whole barrel splattered with shrapnel marks; guns gray from the slime of weeks in swamp mud; faint dark splotches of blood still showing.

You wonder what became of each owner; you pretty well know.

Infantrymen, like soldiers everywhere like to put their names on their equipment. Just as a driver paints a name on his truck so does a doughboy carve his name or initials on his rifle butt.

You get crude whillings of initials in the hard walnut stocks and unbelievably crafsmanlike carvings of soldiers' names, and many and many names of girls.

The boys said the most heartbreaking rifle they'd found was one of a soldier who had carved a hole about silver dollar size and puthis wife's or girl's picture in it, and sealedit over with a crystal of flexiglass.

They don't, of course, know who he was or what happened to him. They only know the rifle was repaired and somebody else is carrying it now, picture and all.

Somewhere in Normandy
July 18, 1944

Then I moved over to an Ordnance evacuation company.

These men handle the gigantic trucks, the long, low trailers, and the heavy wreckers that go out to haul back the crippled tanks and wrecked antitrank guns from the battlefield.

The Ordnance branch's policy on these wrecking companies is that if they don't have a casualty now and then, or collect a few shrapnel marks on their vehicles, then they're not doing their job efficiently. Tanks must be retrieved just as quickly as possible after they have been shot up. In the first place, we don't want the Germans to get them; secondly, we want to get them repaired and back in action for ourselves right away.

The job of an Ordnance evacuation company is often frightening, althought this company's casualties have been amazingly low. In fact, they've had only four and it's still a mystery what happened to them. The four left one day in a jeep, just on a normal trip. They didn't come back. No trace could be found. Three weeks later two of them came in--just discharged from a hospital. On the same day a letter came from the third--from a hospital in England. Nothing yet has been heard from the fourth.

And the strange part is that neither the two who returned nor the one who wrote from England can remember a thing about it. They were just riding along in their jeep and the next thing they woke up in a hospital. All three were wounded, but how they don't know. Friends suppose it was a shell hit.

* * * *

At any rate, a sergeant in charge of one section of the mammoth movers, know as M19's, took me around to see some of his crewmen. They all go by the name of "The Diesel Boys."

Their vehicle is simply a gigantic truck with a long, skeletonized trailer behind.

Like all our Army over there they were strung out around the hedgerows of the field under camouflage nets, with the middle grassy fields completely empty.

My friend was Sgt. Milton Radcliff of Newark, Ohio. He used to be a furnance operator for the Owen Corning Fiberglas Company there. He and all the other former employees still get a letter every two weeks from the company assuring them their jobs will still be ther when they return. And Radcliff, for one, is going to take his when he gets back.

Sgt. Vann JHones of Birmingham, Ala., crawled outof his tent and sat Indian fashion on the ground with us. On the other side of our pasture lay the silver remains of a transport plane that had come to a mangled dispair on the morning of D-Day.

It was a peaceful and sunny evening, quite in contrast to most of our days, and we sat on the grass and watched the sun go down in the east, which we sat on thegrass and watched the sun go down in the east, which we all agreed was a hell of a place for the sun to be going down. Either we were turned around or France is a funny country.

The other boys told me later that Sgt. Jones used to be the company cook, but he wanted to see more action so he transferred to the big wreckers and is now in command of one.

His driver is a smiling, tall young fellow with clipped hair, named Dallas Hudgens from Stonewell, Ga. He was feeling stuffed as a pig,

for he'd just got a big ham sent him from home and had been having at it with a vengeance.

There are long lulls when the retriever boys don't have anything to do besides work on their vehicles. They hate these periods and get restless. Some of them spend their time fixing up their tents homelike,even though they may have to move the next day.

One driver even had a feather bed he had picked up from a French family. the average soldier cna't carry a feather bed around with him, but the driver of an M19 could carry ten thousand feather beds and never know the difference.

* * * *

The boys are all pretty proud of their company. They said they did such good work in the early days of the invasion that they were about to be put up for Presidential citation. But one day they got in a bomb crater and started shooting captured German guns at the opposite bank just for fun, which is against the rules, so the proposal was torn up. they just laugh aobut it--which is about all a fellow can do.

Cpl. Grover Anderson of Anniston, Ala, is one of the drivers. He swears by his colossalmachine but cusses it, too. You see the French roads are narrow for heavy two-way military traffic and an M19 is big and awkward and slow.

"You get so damn mad at it," Anderson says, "because convoys pile up behind you and can't get around and you know everybody's hating you and that makes you madder. They're aggravating, but if you let me leave the trailer off I can pull anything out of anywhere with it."

Anderson has grown a red goatee which he is not going to shave off till the war is won. He used to be a taxi driver, that's another reason he finds the M19 so "aggravating."

"Because it hasn't go a meter on it?" I asked.

"Or maybe because you don't have any female passengers," another driver said.

To which Brother Anderson had a wholly satisfactory GI reploy.

"He said "-------- (remainder of column voluntarily censored) ------"

Somewhere in Normandy
July 29, 1944

It was just beginning dusk when the order came. A soldier came running up the pasture and said there was a call for our Ordnance evacuation company to pull out some crippled tanks.

We had been sitting on the grass and we jumped up and ran down the slope. Waiting at the gate stood an M19 truck and behind it a big wrecker with a crane.

The day had been warm but dusk was bringing a chill, as always. One of the soldiers loaned me his mackinaw.

Soldiers stood atop their big machine with a stance of impatience, like firemen waiting to start. We pulled out through thehedgerow gate onto the main macadam highway. It was about ten miles to the front lines.

"We should make it before full darkness," one of the officers said.

We went through shattered Carentan and on beyond for miles. Then we turned off at an angle in the road.

"This is Purple Heart Corner," the officer said.

Beyond there the roadside soldiers thined out. Traffic ceased altogether. With an increasing temp the big guns crashed around us. Hedges began to make wierd shadows. You peered closely at sentires in every open hedgegate just out ofnervous alertness.

The smell of death washed past us in waves as we drove on. There is nothing worse in war than the foul odor of death. There is no last vestige of dignity in it.

We turned up a gravel lane, and drove slowly. The dusk was deepending. A gray stone farmhouse sat dimly off the road. A little yard and driveway semicircled in front of it. Against the front of the house stood five German soldiers, facing inward, their hands above their heads. An American doughboy sood in the driveway with a tommygun pointed at them. We drove on for about 50 yards and stopped. The drivers shut off their Diesel motors.

One officer went into an orchard to try to find where the tanks were. Inwartime nobody ever knows where anything is. The rest of us waited along the road beside an old stone barn. Three jeeps wereparked beside it. The dusk was deeper now.

Out of the orchards around us roared and thundered our own artillery. An officer lit a cigaret. A sergeant iwth a fifle slung on his houlder walked up and said, "You better put thatout, sir: There's snipers all around and they'll shoot at a cigaret."

The officer crushed the cigaret in his fingers, not waiting to drop it to the ground, and said, "Thanks."

"It's for your own good," the sergeant said, apologetically.

The only traffic past us was an occasional jeep rigged up with a steel framework above to carry two stretcher cases. Every few mintes a jeep would pass with its patient burdens, slowly and silently and almost as though it was feeling its way.

Somehow as darkness comes down in a land of great danger you want things hushed. People begin to talk in low voices and feet on jeep throttles tread less heavily.

An early German plane droned overhead, passed, turned, dived, and his white tracers came slanting down out of the sky. We crouched

behind a stone wall. He was half a mile away, but the night is big and bullets can go anywhere and you are nervous.

An armored car pulled aroundus, pulled into a ditch ahead and shut off its motor. They said it was there in case the German night patrols tried to filter through.

On ahead there were single rifle shots and the give and take of mahcine gun rattles--one fast and one slow, one German and one American. You wondered after each blast if somebody who was shole a moment ago, some utter stranger, was nowl ying in sudden new anquish up there ahead in the illimitable darkness.

A shell whine with that old familiar wail and hit in the orchard ahead with a crash. I moved quickly around behind the barn.

"You don't like that?" inquired a soldier out of the dusk.

I said, "No, do you?"

And he replied as honestly, "I sure as hell don't."

A sergeant came up the road and said, "You can stay here if you want to, but they shell this barn every hour on the hour. They're zeroed in on it."

We looked at our watches. It was five minutes till midnight. Some of our soldiers stood boldly out in the middle of the road talking. But you could sense some of us, who were less composed, easing close to the stone wall, even close to the motherhood of the big silent trucks. Then an officer came out of the orchard. He had the directions. We all gathered around and listened. We had to back up, cross two pastures, turn down another lane and go forward from there.

We were to drag back two German tanks for fear the Germans might retrieve them during the night. We backed ponderously up the road, our powerful exhaust blowing up dust as we moved.

As we passed the gray stone farmhouse we could see five silhouettes, very faintly through the now almost complete night--five Germans still facing the gray farmhouse.

We came to a lane, and pulled forward into the orchard very slowly for you could barely see now. Even in the lightning flashes of the big guns you could barely see. (More tomorrow.)

Somewhere in Normandy
July 30, 1944

We drove slowly acorss the two pastures in the big M19 retriever turck with which our Ordnance evacuation company was to pick up two crippled German tanks. The wrecker truck followed us. It was just after midnight.

We came to a lane at the far side of the pasture. Nobody was there to direct us. The officers had gone on ahead. We asked a sentry if he knew where the German tanks were. He had never heard of them. We shut off the motors and waited.

I think everybody was a little on edge. We certainly had American troops ahead of us, but he didn't know how far. When things are tense like that you get impatient of monkeying around. You want to get the job done and get the hell out of there.

We waited about 10 minutes, and finally a sergeant came back and said for us to drive on up the road for about half a mile. He climbed on to direct us. Finally we came to a barnyard, pulled in, turned around and then very slowly backed on up the road toward the enemy lines. I stood on the steel platform behind the driver so I could see.

It was very dark and you could only make out vague shapes. You could see dark wallsof hedges and between them lighter strips of gravel road. Finally a huge back shape took form at one side of the road. It was the first of the German tanks. Just before we got to it we could make out two dark stripes on either side of the road on the ground. They were the size and shape of dead men, but they were only forms and I couldn't tell for sure.

Being tense and anxious to get finished, I hoped our truck wuld take the first tank. But no. We passed by, of course, and went backing on up the road.

When you're nervous, you feel even 12 inches closer to the front is too much and the noise of your motor sounds like all the claning of hell, directing the Germans to you.

I knew it was foolish to be nervous. I knew there was plenty of protection ahead. And yet there are times when you don't feel good to start with, you're uncomposed and the framework of your character is off balance, and you are weak inside. That's the way I was that night. Fortunately I'm not always that way.

Finally the dark shape of the second tank loomed up. Our officers and some men were standing in the road beside it. We backed to within about five feet of it, and the driver shut off his motor and we climbed down.

A layman would think all you have to do is to hook a chain to the tankand pull it out of the ditch. But we were there half an hour. It seemed like all night to me.

First it had to be gone over for booby traps. I couldn't help but admire our mechanics. They know those foreign tanks as well as our own.

One of them climbed down the hatch into the driver's seat and there in the dark, completely by feel, investigated the intricate gadgets of the cockpit, and found just what shape it was in and told us the trouble.

It seemed that on this tank two levers at thedriver's seat had been left in gear and they were so bent there was not room to shift them out of gear. Our man was sent back up the road to get a hacksaw from the wrecker truck so the could saw off the handles. After fivc minutes he came back and said there wasn't any hacksaw. Then they sent him back after a crowbar and that finally did the trick.

During this time we stood in a group around the tank, about a dozen ofus, just talking. Shells still roamed the dark sky but they weren't coming as near as before.

There would be lulls of many minutes when there was hardly a sound but our own voices. Most everybody talked in low tones, yet in any group there's always somebody who can't bear to speak in anything less than foghorn proportions.

And now and then when they'd have to hammer on the tank it sounded as though a boiler factory had collapsed. I tried to counteract this by not talking at all.

An officer asked if anybody had inpsected the breech of the tank's 88 gun. It seems the Germans sometimes leave a shell in the gun rigged up so it goes off when the tank is moved. Another officer said the breech was empthy. So we started.

Slowly we ground back down the road in low gear with our great, black, massive load rolling behind us. One soldier rode in the tank to steer it.

We'd planned to pull it a long way back. Actually, we pulled it only about half a mile, then decided to put it in a field for the night.

When we pulled into a likely pasture the sentry at the hedgerow gate wanted to know what we were doing and we told him, "Leaving a German tank for the night."

And the sentry, in a horrified voice, said, "Good God, don't leave it here. They might come after it." But leave it there we did, and damn glad to get rid of it, I assure you.

We drove home in the blackout, watching the tall hedgerows against the lighter sky for guidance. For miles the roads were as empty and silent as the farthest corner of the desert. The crash of the guns grew welcomely dimmer and dimmer until finally everything was nearly silent and it seemed there could be only peace in Normandy.

At last we came to our own hedgerow gate. As we drove in the sentry said, "Coffee's waiting at the mess tent." They feed 24 hours a day in these outfits that work like firemen.

But my sleeping bag lay unrolled and waiting on the ground in a nearby tent. It was 3 a.m. With an almost childish gratitude at being there at all I went right to bed.

Somewhere in Normandy
July 31, 1944

I know of nothing in civilian life at home by which you can even remotely compare the contribution to his country made by the Infantry soldier with his life of bestiality, suffering and death.

But I've just been with an outfit whose war work is similar enough to yours that I believe you can see the difference between life overseas and inAmerica.

This is the heavy Ordnance company which repairs shot-up tanks, wrecked artillery, and heavy trucks.

These men are not in much danger. They work at shop benches with roofs. Compared with the Infantry, their life is velvet and they know it and appreciate it. But compared with them you life is velvet. That's what I'd like for you to appreciate.

These men are mostly skilled crafstmen. Many of them are above military age. Back home they made big money. Their jobs here are fundamentally the same as those of you at home who work in war plants. It's only the environment that is different.

These men don't work seven, eight or nine hours a day. They work from seven in the morning until darkness comes at night. They wrok from 12 to 16 hours a day.

You have beds and bathrooms. These men sleep on the ground, and dig a trench for their toilets.

You have meals at the table. These men eat from messkits, sitting on the grass. You have pajamas, and places to go on Sunday. These men sleep in their underwear, and they don't even know when Sunday comes. They have not sat in a chair for weeks. They live always outdoors, rain and shine.

In the War World their life is not bad. By peacetime standards it is outrageous. But they don't complain--because they are close enough to the front to see and appreciate the desperate need of the men they are trying to help. They work with an eagerness and an intensity that is thrilling to see.

* * * *

This company works under a half-acre grove of trees and along the hedgerows of a couple of adjoining pastures. Their shops are in the trucks or out in the open undr camouflage nets.

Most of their work seems unspectacular to describe. It just consists of welding steel plates to the sides of tanks, of chaning the front end of a truck blown up by a mine, or repairing the barrel of a big gun hit by a bazooka, or rewinding the coils of a radio, of welding new teeth in a gear.

It's the sincere way they go at it, and their appreciation of its need

that impressed me.

* * * *

Cpl. Richard Kelso is in this company. His home is at Chicago.

He is an Irishman from the Old Sod. He apprenticed in Belfast as a machinist nearly 30 years ago. He went to America when he was 25 and now he is 45.

He still has folks in Ireland, but he dind't have a chance to get over there when he was stationed in England. He is think and a little stooped, and the others call him Pop. He is quiet and intent and very courteous. He never did get married.

Kelso operates the milling machine in a shop truck. His truck is covered deep with extra strips of steel, for these boys pick up and hoard steel as some people might hoard money.

When I stopped to chat, Kelso had his machine grinding away on the rough tooth of the gearwheel of a tank.

The part that did the cutting was one he had improvised himself. In this business of war so much is unforseen, so much is missing at the right moment that were it not for improvisation, wars would be lost.

Take these gearwheels, for instance. Suppose a tank strips three teeth off some gear. The entire tank is helpless and out of action. They have no replacement wheels in stock. They have to repair the broken one.

So they take it to their outdoor foundry, make a form, heat up some steel till it is molten, pour it in the form and mould a rough geartooth which is then welded onto the stub of the broken-off tooth.

Now this rought tooth has to be ground down to the fine dimensions of the other teeth and that is an exact job. At first they didn't have the tools to do with.

But that didn't stop them. They hacked those teeth down with cold chisels and hand files. They put back into action 20 tanks by this primitive method. Then Kelso and W/O Henry Moser, of Johnstown, Pa., created a part for their milling machine that would do the job faster and better.

The one little improvisation may have saved 50 Americans' lives, may have cost the Germans a hundred men, may have even turned the tide of a battle.

And it's being done by a man 45 years old wearing corporal stripes who doesn't have to be over here at all, and who could be making big money back home.

He too sleeps on the ground and works 16 hours a day, and is happy to do it--for boys who are dying are not 3,000 miles away and abstract, they are ten miles away and very, very real.

He sees them when they come back, pleading like children for another tank, another gun. He knows how terribly they need the things that are within his power to give.

Somewhere in Normandy
August 1, 1944

An Ordnance tank repair company gets some freakish jobs, indeed.

The other day the company I was with had a tank destroyer roll in. There was nothing wrong whatever with it except--the end of the gun barrel was corked tight with two and one-half feet of wood.

What happened was they had been running along a hedgerow and as the turret operater swung his gun in a forward arc, they ran the end of the barrel smack into a big tree.

You would think the vehicle had to be going 100 miles an hour to plug the end of the barrel for two and one-half feet simply by running into a tree. But it doesn't. This one was only going 20 miles an hour.

It took the Ordnance boys four hours to dig the wood out with chisels and reamers. The inside of the barrel wasn't hurt a bit and it went right back into action.

* * * *

A 3-inch antitank gun was brought in with a hole in the barrel about six inches back from the muzzle. The hole came from the inside! What happened was this: a German bazooka gunner fired a rocket at the antitank gun. It made one of those freakish hole-in-one hits--went smack into themuzzle of the big gun.

Abut six inches inside it went off and burned its way clear through the barrel. Nobody got hurt but the barrel was unrepairable, and, was sent back to England for salvage.

* * * *

A tank was brought in that had been hit twice on the same side within a few seconds. The entrance holes were about two feet apart. But on the opposite side of the tank where the shells came out, there was only one hole. The angle of fire had been such that the second shell went right through the hole made by the first one.

* * * *

In another case an 88 shell struck the thick steel apron that shields the breech of one of a tank's guns. The shell didn't go through. It hit at an angle and just scooped out a big chunk of steel about a foot long and six inches wide.

It's very improbably that in the whole war this same shield would get hit again in the same place. Yet they can't afford to take that chance, so the weakened armor had to be made strong again.

They took acetylene torches and cut out a plug around the weakened part with slanting sides the same as you'd plug a watermelon. They then fashioned a steel plate the same size and shape as the hole, and welded it in.

The result is that the plug fits into the hole like a wedge and it would

be impossible for a shell to drive it in. It's really stronger now than it used to be.

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One of the most surprising things I ran onto touring around scores of outdoor Ordnance shops in Normandy was a mobile tire repair unit.

There already are half a dozen of these units here and more coming in. They fix anything from a motorcycle to truck tires. They don't bother with ordinary holes such as nail holes. Practically all their work is on tires damaged by shrapnel or bullets.

Each repair outfit consists of one officer and 15 men. They've been especially trained and their leaders usually were tiremen back in civil life.

They move in three trucks. When they set up, the three are backed to each other to form a T, thus making a shop with three wings. You get up to it on a portable staircase.

Outside on the ground tires are stacked all around. One set of soldiers works all day with knives carving out the rubber around the damaged places. Then they take the tire inside, and a machine roughens the edges of the holes so the filling will stick.

Then they mould in fresh rubber and put the tire in one of three baking machines. It's hotter than blazes in there. It takes an hour and 45 minutes to bake each patch, so you see they can't turn them out very fast.

They'll repair a tire that has up to six holes, but if it has more than that they send it back to England. A six-hole tire takes ten and a half hours of baking. One unit can run off a maximum of about 65 tires daily. The unit I saw was set up in a former orchard and was so thoroughly camouflaged with nets you could hardly see it. The officer in charge was Lt. George Schuchardt who has "The Hawkinson Tread Service" in Nashville, Tenn. His partner is running it while he's away.

His first sergeant is Stephen Hudak of Akron, of all places. He used to work for Firestone. I've been finding more damned square pegs in square holes in this Army lately. Something must be wrong.